

Table A-22. Kentucky Lane Width Crash Reduction Estimates

Category	Number of Estimates	Average Percent Crash Reduction
<i>State Survey Estimates:</i>		
Widen Pavement (All Crashes)	19	26
Widen Pavement (Run-off-Road Crashes only)	2	30
<i>Literature Review Estimates:</i>		
Widen Pavement (All Crashes)	15	22
<i>Researcher's Resulting Estimates:</i>		
Widen Pavement (All Crashes)	---	25

A study performed by Creasy and Agent (1985), based on a combination of 42 literature reviews, 22 state surveys and a before-after analysis, provided the subjective estimate that a 20-percent reduction should occur in total crashes due to lane widening.

Benekahal and Hashmi (1990) considered data from 1981 to 1987 for two-lane rural highways in the state of Illinois. These researchers evaluated the relationship between roadway characteristics, environmental conditions and crash frequency. The researchers concluded “any roadway improvement consisting of lane and shoulder widening... generally results in the reduction of accident frequency of related accidents.” The analysis model indicated that crash frequency decreases by about 3-percent as lane width increases.

A comprehensive study for the FHWA (Smith et. al., 1983) estimated percent crash reduction for several countermeasures. The researchers based this study on improvements at hazardous locations. The authors emphasized the percent crash reductions estimated are not directly applicable to moderately or mildly hazardous locations. Locations where pavement was widened resulted in the estimated values shown in the following table.

Table A-23. FHWA Lane Widening Crash Reduction Estimates

Countermeasure	Mean Percent Crash Reduction			
	Total	Fatal	Injury	Property Damage Only
Pavement Widening on Sections	0	-10	-5	5
Pavement Widening on Horizontal and Vertical Curves	5	-5	0	10

Griffin and Mak (1988) suggested that by increasing surface width, the single-vehicle crash rate for average annual daily traffic (AADT) greater than 400 would decrease. They used data on two-lane, rural, farm-to-market roads in the state of Texas. The study included crash data and roadway inventory data from 1985. The analyses indicated that surface widening would not reduce multi-vehicle crash rates. The